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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,832	04/17/2001	Xie Shao	30430	9969

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07/03/2002

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EXAMINER

KEEHAN, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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1712

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DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,832

Applicant(s) **AF 5**

SHAO ET AL.

Examiner

Christopher M. Keehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 12-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation "**the** weight ratio" in the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 27 recites the limitation "**the** weight ratio" in claim 24. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-10, 12-14, 16-21, 23, 24, 26-31, 33-35, 37-39, 41-43, 45, 46, and 48-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Meador et al. (5,919,599). Meador et al. disclose an anti-reflective coating composition comprising a polymer dissolved in a solvent system, and wherein the composition comprises less than about 0.3% by weight of a strong acid (col.6, lines 19-25, col.7, lines 45-53, and Example 1). It is the Examiner's position that, in Example 1, the amount of strong acid

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added, 55 mg added to 1.06 g of aminoplast and 34.5 g of PGME, is 0.0015 weight percent strong acid, which is less than 0.3 weight percent as instantly claimed.

Regarding Claims 2 and 3, Meador et al. disclose the composition further comprising a compound selected from the group as instantly claimed, wherein the compound is chemically bonded with the polymer (col.5, line 63-col.6, line 17).

Regarding Claims 5-7, Meador et al. disclose wherein the composition comprises surfactants and crosslinking agents as instantly claimed (col.6, lines 26-63 and col.7, lines 12-15).

Regarding Claim 8, Meador et al. disclose a solvent as instantly claimed (col.6, line 65-col.7, line 6).

Regarding Claims 9 and 10, Meador et al. disclose a methacrylate polymer (col.5, lines 37-61).

Regarding Claims 12 and 23, Meador et al. disclose a weight ratio of strong to weak acid of from about 0:100 to about 50:50, and less than about 0.3% by weight of strong acid as set forth above (col.6, lines 19-25, col.7, lines 45-53, and Example 1).

Regarding Claims 13 and 14, Meador et al. disclose the composition further comprising a compound selected from the group as instantly claimed, wherein the compound is chemically bonded with the polymer (col.5, line 63-col.6, line 17).

Regarding Claims 16-18, Meador et al. disclose wherein the composition comprises surfactants and crosslinking agents as instantly claimed (col.6, lines 26-63 and col.7, lines 12-15).

Regarding Claim 19, Meador et al. disclose a solvent as instantly claimed (col.6, line 65-col.7, line 6).

Regarding Claims 20 and 21, Meador et al. disclose a methacrylate polymer (col.5, lines 37-61).

Regarding Claims 24, 26, and 27, Meador et al. disclose a composition comprising phosphoric acid (col.6, lines 19-25), less than about 3 weight percent of a strong acid, and a weight ratio as instantly claimed (col.6, lines 19-25, col.7, lines 45-53, and Example 1).

Regarding Claim 28, Meador et al. disclose wherein the compound is chemically bonded with the polymer (col.5, line 63-col.6, line 17).

Regarding Claim 29, Meador et al. disclose a combination of a substrate having a surface and a cured protective layer on the substrate (col.7, line 59-col.8, line 23), the cured protective layer being formed from a composition comprising a polymer dissolved in a solvent system and less than about 0.3 % by weight of a strong acid (col.6, lines 19-25, col.7, lines 45-53, and Example 1).

Regarding Claims 30 and 31, Meador et al. disclose wherein the compound is chemically bonded with the polymer (col.5, line 63-col.6, line 17).

Regarding Claims 33-35, Meador et al. disclose wherein the composition comprises surfactants and crosslinking agents as instantly claimed (col.6, lines 26-63 and col.7, lines 12-15).

Regarding Claims 37 and 45, Meador et al. disclose a weight ratio of strong to weak acid of from about 0:100 to about 50:50 as set forth above and less than about

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0.3% by weight of strong acid as set forth above (col.6, lines 19-25, col.7, lines 45-53, and Example 1).

Regarding Claims 38 and 39, Meador et al. disclose the composition further comprising a compound selected from the group as instantly claimed, wherein the

Regarding Claim 41, Meador et al. disclose wherein the composition comprises surfactants and crosslinking agents as instantly claimed (col.6, lines 26-63 and col.7, lines 12-15).

Regarding Claims 42 and 43, Meador et al. disclose a methacrylate polymer (col.5, lines 37-61).

Regarding Claims 46, 48, and 49, Meador et al. disclose a composition comprising phosphoric acid (col.6, lines 19-25), less than about 3 weight percent of a strong acid, and a weight ratio as instantly claimed (col.6, lines 19-25, col.7, lines 45-53, and Example 1).

Regarding Claim 50, Meador et al. disclose wherein the compound is chemically bonded with the polymer (col.5, line 63-col.6, line 17).

Regarding Claims 51-55, Meador et al. disclose the instantly claimed method steps (col.7, line 59-col.8, line 23).

Regarding Claims 56-59, the same reasoning as set forth above for Claims 51-55 also applies to Claims 56-59, as the claimed subject matter is essentially the same.

Regarding Claims 61-63, the same reasoning as set forth above for Claims 51-55 also applies to Claims 61-63, as the claimed subject matter is essentially the same.

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Claims 11, 22, 25, 36, 44, and 47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Meador et al. (5,919,599). Meador et al., as applied above, are as set forth and incorporated herein. Meador et al. appear to inherently disclose a composition that gives a spin bowl compatibility test result of greater than about 90% (col.6, lines 19-25, col.7, lines 45-53, and Example 1), as set forth above, and if not inherently disclosed, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have achieved at least similar results as that as instantly claimed, because the materials of Meador et al. are the same as Applicant's, and because similar processes can reasonably be expected to yield products which inherently have the same properties. *In re Spada* 15 USPQ 2d 1655 (CAFC 1990); *In re DeBlauwe* 222 USPQ 191; *In re Wiegand* 86 USPQ 155 (CCPA 195).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

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Claims 1-4, 12-15, 29-32, 37-40, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Fahey et al. (6,207,787). Regarding Claim 1, Fahey et al. disclose an anti-reflective coating composition comprising less than 0.3 weight percent strong acid. It is the Examiner's position that Fahey et al. do not appear to disclose any strong acetic acid, which is less than 0.5 weight percent as instantly claimed.

Regarding Claims 2-4, Fahey et al. disclose a composition further comprising a carboxylic acid, wherein the compound is chemically bonded with the polymer, and wherein the carboxylic acid is acetic acid (col.5, lines 1-12).

Regarding Claim 12, Fahey et al. disclose an anti-reflective coating composition comprising a weight ratio of strong to weak acid of from about 0:100 to 50:50 and a weak acid (col.5, lines 1-12). It is the Examiner's position that Fahey et al. do not appear to disclose any strong acid, which yields a ratio of 0:100 strong to weak acid.

Regarding Claims 13-15, Fahey et al. disclose a composition further comprising a carboxylic acid, wherein the compound is chemically bonded with the polymer, and wherein the carboxylic acid is acetic acid (col.5, lines 1-12).

Regarding Claim 29, Fahey et al. disclose an anti-reflective coating composition comprising a weight ratio of strong to weak acid of from about 0:100 to 50:50 and a weak acid (col.5, lines 1-12 and Example). It is the Examiner's position that Fahey et al. do not appear to disclose any strong acid, which yields a ratio of 0:100 strong to weak acid.

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Regarding Claims 30-32, Fahey et al. disclose a composition further comprising a carboxylic acid, wherein the compound is chemically bonded with the polymer, and wherein the carboxylic acid is acetic acid (col.5, lines 1-12).

Regarding Claims 37 and 45, Fahey et al. disclose an anti-reflective coating composition comprising a weight ratio of strong to weak acid of from about 0:100 to 50:50, less than about 0.3% by weight strong acid, and a weak acid (col.5, lines 1-12 and Example). It is the Examiner's position that Fahey et al. do not appear to disclose any strong acid, which yields a ratio of 0:100 strong to weak acid.

Regarding Claims 38-40, Fahey et al. disclose a composition further comprising a carboxylic acid, wherein the compound is chemically bonded with the polymer, and wherein the carboxylic acid is acetic acid (col.5, lines 1-12).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 15, 32, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meador et al. (5,919,599) in view of Fahey et al. (6,207,787). Meador et al. and Fahey et al., as applied to Claim 1 above, respectively, are as set forth and incorporated herein. Meador et al. do not appear to specifically disclose a

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compound selected from the group as instantly claimed. Fahey et al. disclose an anti-reflective coating composition comprising less than 0.3 weight percent strong acid (as detailed above). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the acetic acid as taught by Fahey et al. to the composition of Meador et al. because Fahey et al. teach that adding acetic acid to an anti-reflective composition produces a copolymer that can be tailored to specific applications, resulting in a more versatile composition.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (703) 305-2778. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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Christopher Keehan *CK*

June 18, 2002

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